

ALTERNATE B

*Revised Proposal for Monitoring, Defining and Managing Methane Gas
Rapid City Landfill, Rapid City, South Dakota*

September 10, 2003

PURPOSE AND SCOPE OF WORK TO BE PERFORMED

The purpose of our work on the project will be to assist the City of Rapid City in assessing the migration of methane gas in the subsurface around the landfill property. Assessment goals will be to determine the extent of methane migration beyond the cell areas, evaluate the severity of the problem and to present alternative management practices for mitigation of impacts along with budgetary cost estimates for those management practices.

Based on our understanding of the project goals, AET proposes to utilize a phased project approach for our work to meet those goals. The first phase of our efforts will include an Initial Assessment for the presence and concentration of migrating methane gas beyond the cell areas of the landfill. Since little data is currently available regarding the extent of migrating methane gas on the property and given the age and aerial extent of landfill operations, the level of effort required to adequately define the extent of methane gas is uncertain. Given these circumstances and based on our knowledge of site conditions and discussions with landfill personnel, AET has proposed the installation of up to 40 methane gas monitoring wells, including several background wells in the area surrounding the landfill, to identify and delineate areas of migrating methane gas. The background wells will serve to evaluate the potential for naturally occurring methane gas within the native bedrock shale of the area. The monitoring wells will be constructed as temporary wells allowing the collection of adequate field screening data for delineation while controlling overall project costs. AET proposes to collect up to 10 air samples from the temporary monitoring wells for laboratory analysis for the presence and concentration of methane gas as a confirmation of the field screening results. When the methane gas areas of concern have been established, we propose to install up to 12 permanent methane gas monitoring wells at selected locations to facilitate long term monitoring of the fate and transport of migrating methane gas.

If the results of the first phase of our efforts indicate significant areas and concentrations of migrating methane gas beyond the cell areas, AET proposes to initiate the second phase of our project approach, a Risk Evaluation of the impacts and/or potential impacts as a result of the identified methane gas.

Upon review of the project information, if the Risk Evaluation identifies significant impacts or the potential for impacts as a result of the migrating methane gas, AET proposes to initiate the third and final phase of our project approach, an Evaluation of Alternative Management Practices for addressing impact mitigation. AET will research and present the available options for the control and management of the identified methane gas. It may be prudent and necessary to utilize data obtained in performance of the 2003 NMOC Emissions Study, which is concurrently planned for the landfill, to properly define and evaluate all alternative management practices available for addressing the migration of methane gas beyond the cell areas. Our discussion will include recommendations

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for additional assessment necessary to perform a detailed feasibility study for design and implementation of the management options, estimated budgetary costs for the management options, and our recommendations for a preferred corrective action plan.

In order to accomplish the above purpose we propose to provide professional services to the City of Rapid City in the form of labor, equipment, supplies, insurance, and other necessary work components necessary to perform the following tasks for Rapid City's Solid Waste Operations Division:

INITIAL ASSESSMENT

- Mobilizing a two person drill crew out of our Rapid City, South Dakota Office;
- Selecting up to forty (40) locations across the landfill property for advancement of Geoprobe® direct push (DP) borings to depths of up to fifteen (15) feet below grade;
- Completing the DP borings as temporary methane gas monitoring wells;
- Perform field screening for the presence and concentration methane gas in the temporary monitoring wells at the time of installation and at fourteen (14) days from the date of installation; (Please note: Previous methane gas monitoring wells installed by AET at the landfill do not develop their peak concentration of methane until two weeks after the date of installation.)
- Utilizing the field screening results, define the extent (foot print) of methane gas migration beyond the cell areas;
- Collecting samples from up to 10 select temporary monitoring wells and submitting the samples for laboratory analysis for the presence and concentration of methane gas as a confirmation of field screening results;
- Based on the initial assessment activities, selecting up to 12 locations for the installation of permanent methane gas monitoring wells for future long term monitoring;
- Properly abandoning the temporary methane gas monitoring wells that were not converted to permanent monitoring wells;
- Including in the formal report of our findings on the project, the results of our initial assessment activities to include: soil boring/monitoring well logs; field observations and screening results; laboratory analytical results; a velum map of all methane gas well locations

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and gas migration foot print; and a GIS database for location of the soil borings/monitoring wells and gas footprint;

RISK EVALUATION

- Based on the extent and concentration of methane gas observed in the initial assessment activities, evaluating the risks associated with migration of methane gas beyond the cell areas;
- Based on the results of the risk evaluation, providing recommendations regarding the need for additional assessment and/or the need for development of methane gas mitigation measures and including those recommendations in the formal report of our findings on the project;

EVALUATION OF ALTERNATIVE MANAGEMENT PRACTICES

- If the results of the risk evaluation indicate the presence of, or potential for, impacts associated with the migration of methane gas beyond the cell areas, evaluating alternative management practices available for mitigation of those impacts; and
- Presenting in the formal report of our findings on the project, a discussion of the alternative management practices available for mitigation of migrating methane gas, the additional assessment activities necessary to perform a detailed feasibility study for design and implementation of the management options, and budgetary cost estimates for each alternative along with our recommendations for a preferred corrective action plan.

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ASSESSMENT TEAM

American Engineering Testing, Inc. is a full service consulting firm providing environmental, geotechnical and construction materials engineering services to both private and governmental clients in South Dakota, North Dakota, Minnesota, Nebraska, Wisconsin and Wyoming. AET personnel have completed assessment activities, remedial feasibility studies and corrective action plans for a variety of solid waste related projects. The biosolids have included wood waste, creosote and chloropentaphenol contaminated wood and soil, herbicide/pesticide impacted soils, nitrate impacted soils, medical waste, PCB contaminated soils, heavy metal contaminated tank sludge and soil as well as numerous hydrocarbon contaminated medias. AET personnel are knowledgeable of site conditions at the Rapid City Landfill and have worked with Landfill personnel on many projects in the past. AET has also installed permanent methane monitoring wells at the Newcastle, Wyoming landfill and permanent vapor probes at sites located in Fort Yates, North Dakota and Lantry, South Dakota.

AET proposes to utilize personnel from the Rapid City office of AET to perform the services as presented in this proposal. Roger Hodson and Byron Schulz will service as AET Project Managers for the project and they will be assisted by the balance of the Rapid City staff. Resumes for key AET staff are attached to this proposal for your review. Laboratory analytical services for this project will be subcontracted to Energy Laboratories, Rapid City, South Dakota.

AET also proposes to utilize the assistance of Earth Tech, Inc. in evaluating the alternative management practices available for mitigation of impacts, if identified, associated with the migration of methane gas beyond the cell areas. Earth Tech's landfill gas recovery team is based in their Oak Brook, Illinois office and has been involved in the landfill gas-to-energy field since it's infancy. Their expertise includes gas recovery and beneficial use evaluation, regulatory permitting and compliance, and gas collection design. Earth Tech's experience brings state-of-the-art knowledge to our team for evaluation and development of alternative management practices. AET and Earth Tech personnel have effectively teamed together on numerous projects including the assessment and remediation of landfill contamination at Ellsworth Air Force Base, Rapid City, South Dakota. Resumes for key Earth Tech personnel are also attached to this proposal for your review.

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PROPOSED WORK COMPLETION SCHEDULE

AET proposes the following work completion schedule:

- Commence Initial Assessment activities within five working days of a notice to proceed. We anticipate approximately fifteen working days for completion of the field data collection and ten working days for receipt of the laboratory analytical results.
- Upon completion of the Initial Assessment activities and receipt of laboratory analytical results, we anticipate approximately ten to fifteen working days to complete the Risk Evaluation.
- Depending on availability of laboratory data from the 2003 NMOC Emissions Study, we anticipate approximately 20 to 30 working days to complete the Evaluation of Alternative Management Practices portion of our work and to present a formal report of our findings on the project.

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COST ESTIMATE and TERMS OF PAYMENT

The scope of work listed in this proposal will be performed and compensated for on a time and materials basis and our "General Terms and Conditions." A copy of the Cost Estimate and "General Terms and Conditions" is attached. AET estimates a cost of \$17,569.00 to complete the Initial Assessment portion of this project, a cost of \$2,450.00 to complete the Risk Evaluation portion of this project and a cost of \$4,290.00 to complete the Evaluation of Alternative Management Practices portion of this project. The total project cost will not exceed \$25,000.00.

If conditions at the site require that AET provide services beyond the scope of this proposal or in excess of the above estimates, the additional services will require additional approval and will be charged according to the attached rates.

Our efforts will be directed at performing the work and accomplishing the objectives defined within the estimated cost and schedule proposed. The estimated cost and schedule are based on our judgement of the requirements known at the time of the proposal. The successful completion within cost and schedule limits can be influenced - favorably or adversely - by changes in work scope and schedules as indicated by your needs and presently unforeseen circumstances. We will notify you in advance if scheduled costs are expected to exceed the estimate. In such events, you may wish to 1) authorize additional funds to complete the work as originally defined, 2) re-define the scope of work in order to fit the remaining funds, or 3) request that work be stopped at a specific expenditure level. If option 3 is chosen, we will turn over such data and results, and materials completed at the authorized level without further obligation or liability by either party except for payment for work performed.

COST ESTIMATE FOR

No. PW093003-11

MONITORING, DEFINING AND MANAGING METHANE GAS - RAPID CITY SANITARY LANDFILL**INITIAL ASSESSMENT ACTIVITIES****Project Mobilization (2-Person Crew)**

Preparation, Loading/Unloading	5.0	hours	@	\$100.00	= \$	500.00
Travel Time	5.0	hours	@	\$100.00	= \$	500.00
Mileage	60.0	miles	@	\$0.65	= \$	39.00

Direct Push Services (2-Person Crew)

Utility Locates (if requested)	2.0	hours	@	\$60.00	= \$	120.00
Soil Boring	40.0	hours	@	\$100.00	= \$	4,000.00
Monitoring well installation (Temporary)	20.0	hours	@	\$50.00	= \$	1,000.00
Monitoring well installation (Permanent)	5.0	hours	@	\$100.00	= \$	500.00
Monitoring well materials (Temporary)	40.0	each	@	\$15.00	= \$	600.00
Monitoring well materials (Permanent)	10.0	each	@	\$550.00	= \$	5,500.00

Field Data Collection

Travel Time	2.0	hours	@	\$60.00	= \$	120.00
Methane Gas Screening (Initial)	4.0	hours	@	\$60.00	= \$	240.00
Methane Gas Screening (@ 14 days)	6.0	hours	@	\$60.00	= \$	360.00
Methane Gas Sampling (8 to 10 wells)	5.0	hours	@	\$60.00	= \$	300.00
Field Mapping	5.0	hours	@	\$60.00	= \$	300.00

Equipment Services

CGI/Multi-gas Monitor	3.0	day	@	\$25.00	= \$	75.00
Trinble GPS and Software	2.0	days	@	\$100.00	= \$	200.00
Sampling Equipment Fee	10.0	samples	@	\$20.00	= \$	200.00

Personnel Services

Project Manager						
Project Management	6.0	hours	@	\$75.00	= \$	450.00
Report Preparation						
Staff Professional	14.0	hours	@	\$60.00	= \$	840.00
Draftsperson	16.0	hours	@	\$50.00	= \$	800.00
Clerical	3.0	hours	@	\$30.00	= \$	90.00
Technical Review	2.0	hours	@	\$85.00	= \$	170.00

Regulatory Liason

Project Manager	2.0	hours	@	\$75.00	= \$	150.00
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Laboratory Services

Methane in Air	10.0	samples	@	\$50.00	= \$	500.00
Chemistry Markup- 3%					= \$	15.00

TOTAL INITIAL ASSESSMENT**\$ 17,569.00****RISK EVALUATION****Personnel Services**

Project Manager						
Project Management	4.0	hours	@	\$75.00	= \$	300.00
Report Preparation						
Sr. Engineer	4.0	hours	@	\$100.00	= \$	400.00
Project Manger	6.0	hours	@	\$75.00	= \$	450.00
Staff Professional	14.0	hours	@	\$60.00	= \$	840.00
Draftsperson	4.0	hours	@	\$50.00	= \$	200.00
Clerical	3.0	hours	@	\$30.00	= \$	90.00
Technical Review	2.0	hours	@	\$85.00	= \$	170.00

TOTAL RISK EVALUATION**\$ 2,450.00**

EVALUATION OF ALTERNATIVE MANAGEMENT PRACTICES**Personnel Services**

Project Manager						
Project Management	4.0	hours	@	\$75.00	= \$	300.00
Report Preparation						
Sr. Engineer	16.0	hours	@	\$100.00	= \$	1,600.00
Project Manager	8.0	hours	@	\$75.00	= \$	600.00
Staff Professional	20.0	hours	@	\$60.00	= \$	1,200.00
Draftsperson	4.0	hours	@	\$40.00	= \$	160.00
Clerical	3.0	hours	@	\$30.00	= \$	90.00
Technical Review	4.0	hours	@	\$85.00	= \$	340.00

TOTAL EVALUATION OF ALTERNATIVE MANAGEMENT PRACTICES \$ 4,290.00**PROJECT TOTAL \$ 24,309.00**